

“Two Minute Miracles” Not All Wireless Standards Are Created Equal

If you're looking to expand your holiday vacation by an extra couple of days, you're going to need to stay connected to work. That means going wireless.

In this “Two Minute Miracles” video, Agent Hymans will showcase some of the gear you'll need to experience the freedom of wireless.

The following is a simple checklist of what's needed to minimize confusing cabling and enable wireless connectivity:

- 1) A computer, either a laptop or desktop, with wireless capability
 - Most new laptops are already wireless or “Wi-Fi” enabled
 - With older laptops or desktops, you'll also need to purchase an internal wireless networking card or a wireless USB adapter
 - Depending on how close a desktop is located to the broadband modem, a wired connection may be more appropriate
- 2) A broadband Internet connection provided through cable, DSL, satellite or fiber-optic
 - Most Internet providers now supply a broadband modem (required for both wired and wireless Internet access)
- 3) A wireless router
 - Check with your Internet provider, as many supplied broadband modems now include a built-in wireless router

When shopping for a wireless router, wireless network card or wireless USB adapter, become familiar with the following terminology and options to ensure that all of your equipment works well together and performs at the optimal speed and distance:

- 1) **802.11g** – the current and ratified standard – more widespread and compatible than previous standards (802.11a and 802.11b)
- 2) **802.11n** – this upcoming standard, tentatively scheduled for ratification in the summer of 2009, will provide greater range and speed and is compatible with all previous standards
 - Draft N (802.11n), available today, is an early release of the upcoming standard

- While initial devices released using “Draft N” were poorly received, the newer wave of devices are delivering on the promise of greater range and speed
- 3) **MIMO** (pronounced *mee-moh* or- *my-moh*) stands for multiple-input and multiple-output and is an aspect of the 802.11n standard (including Draft N) but can also be found in certain 802.11g devices
- MIMO devices use multiple internal antennas to improve communication performance, which equates to faster transfer and farther reach
 - All devices connecting to the network must be MIMO compatible to benefit from its performance enhancements

Setting up the Wireless Network

- 1) Connect the wireless router to the broadband modem with an Ethernet cable and use the CD provided with the wireless router for configuration
 - If your broadband modem has a built-in wireless router, skip step 1 and consult the modem CD or manual for enabling the wireless capability within the modem
 - The setup program on the CD may prompt you with a variety of security options – see “*Securing the Network*” below for additional information
- 2) If your laptop or desktop doesn’t automatically connect to the wireless network, ensure that the wireless card is enabled and bring up the following areas:
 - In Windows XP, click on the Start button, select “Control Panel,” then “Network Connections” and finally, “Wireless Network Connections”
 - In Windows Vista, click on the Start button and select “Connect To”
- 3) Select the appropriate network and when prompted, enter the WEP or WPA security key that was created during setup
 - NOTE: a closed lock appearing near the wireless network name (or SSID) denotes that the network is secure
- 4) Go forth and enjoy the holidays away from the office. Walk throughout your home with the untethered freedom of wireless networking.

Securing the Wireless Network

Enabling wireless security is essential to help ensure that your information is kept safe from prying eyes. Consider the following options:

- 1) WEP stands for Wired Equivalent Privacy, is an older form of wireless security, more widespread and compatible with the breadth of devices but less secure
- 2) WPA (or WPA2) stands for Wi-Fi Protected Access, is a newer form of wireless security that is more secure but may not be compatible with all of your devices
 - NOTE: All devices connected to the network must be set for *either* WEP, WPA or WPA2 – a combination of these security classes will not work

For more advanced users, log directly into the broadband modem or wireless router and change the following aspects to something that is only meaningful to you for increased security:

- 1) The default router username and password (often initially set as “admin” or “password”) which is required for manual access to the router configuration
- 2) The default broadcasted SSID (often initially set as “default” or as the brand of the router, “linksys”, “netgear”, etc.), which is the name assigned to your wireless network allowing nearby devices to see and connect to it

Geek Squad Hint: the SSID can also be hidden from public view – this option is usually found within the manual router configuration but also requires additional configuration on any laptop or desktop you plan on connecting wirelessly